SPORTS INJURIES AND THEIR MANAGEMENT: WHAT ARE THE RUGBY LEAGUE CLUBS PROVIDING?

Officials from nine of the twelve Sydney first grade rugby league football clubs were interviewed to determine what their clubs offered their athletes regarding sports injury management.

This survey describes the different personnel used by the clubs, and their roles in injury treatment and physical conditioning programmes.

It is concluded that some clubs are advancing in the areas of immediate injury treatment and injury prevention, but that the majority have deficiencies in their programmes related to these areas. It is also suggested that sports medical care and knowledge in this and similar sports would benefit by a greater involvement of a wider range of health professionals, to add to that already provided by medical doctors.

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What responsibility do sporting bodies take for organising sports medical care for their own athletes? It would be reasonable to assume that the sports which are either professional or closer to a full time professional set-up would offer more in this area for their participants. If their athletes were employed by, and contracted to a club or organisation, there would be even more reason to expect an efficient sports medicine system.

This survey was designed to investigate what sports medicine facilities Sydney first grade rugby league football clubs made available to their players. The code of rugby league in Sydney has very close to a full time professional organisation. It is certainly the largest spectator sport, and has the largest participator payroll.

Outlined in this report are responses to interviews with club officials responsible for organising the various clubs' sports medical facilities. The facilities at each club are compared, with some pertinent comment on what is lacking, and what is innovative in certain clubs.

Aim

The aim of this survey was fourfold:

1. To report on what first grade rugby league football clubs are providing for their players in the area of sports medicine, and to assess what use they are making of the professions, both medical and para-medical.
2. To inform other physiotherapists as to what contribution their profession is making in this leading sport, and how this contribution can be improved.
3. To report on whether or not we as physiotherapists feel more can be offered to these athletes in the areas of injury prevention and treatment.
4. To indicate to the clubs that other professions beside medicine are interested in making a valuable contribution related to their sport, and to sports medicine as a whole.

Method

The secretaries of each club were mailed:

- a letter of explanation outlining the reason for the survey;
- an introduction as to our connection with the sports medicine field;
- a thirty-two part questionnaire which, they were informed, was only to be read at that stage.

Appointments were made with the appropriate club officials in order to discuss their answers to the questions. The questionnaire was used only as a guide during the interviews.

A satisfactory hearing was received from nine of the twelve clubs approached. Each club was assured that neither their name, nor the names of individuals would be reproduced. It was hoped that this would induce a more open response.

The survey was specifically aimed at investigating four areas:

1. The personnel used by the clubs, and their specific roles.

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2. The pre-game format adopted by the clubs.
3. The post-game formats used.
4. The injury prevention measures taken by the clubs.

1. Personnel and Their Roles

Medical Doctors

All clubs had the services of at least one medical practitioner. The majority in fact, had two and sometimes three doctors involved with the club. It is interesting to note that the specialities of the club doctors varied greatly.

Ten of the doctors were general practitioners, several of whom were involved in other fields of sports medicine. In contrast, however, one general practitioner admitted that he was unable to find the time to attend sports medicine lectures. The remaining doctors comprised two gynaecologists, one cardiologist and only one orthopaedic specialist.

As one would expect, the doctor's role covered the diagnosis of injuries, stitching wounds, prescribing medications, attending fractures and dislocations, referring players for further treatment to the appropriate professionals, reviewing the progress of injuries, and advising the team coach as to the soundness of players.

In every club, the doctor was described as being in charge of the health care set-up. It must be pointed out though, that in nearly every case, the health care personnel (including the doctor) at the club were all appointed by the football club committee. Any changes or additions had to be approved by this committee.

The doctor's role of being in charge of the player's welfare was only in doubt when it came to the stage of prescribing a player's fitness for a particular game following a come-back from an injury received in a previous game. In some cases involving star players, the team coach also seemed to have a strong influence as to whether the players were available or not.

In the majority of cases the club doctor had been associated with the club for over ten years.

Trainers

All clubs made use of a group of attendants referred to as either trainers, strappers, rubbers or masseurs. Their roles varied from club to club as did their titles. In most cases their qualifications were as ex-players or ex-gymnasium trainers.

The treatment of players on the field was conducted by what the clubs refer to as the trainer. In every case but two, the trainer's qualifications to inspect an injury consisted of a basic first-aid certificate. The exceptions to this were one qualified ambulance man and ambulance course lecturer with many years experience in sport, and one trainer who had completed one year of a fringe-medicine course.

In all cases a doctor was on standby if, in the opinion of the trainer, he was needed on the field. This situation raises the question as to whether a basic first-aid certificate provides sufficient training to make a speedy and accurate on-field diagnosis, or to cope with an emergency situation. More often than not this qualification may well be adequate, but in certain circumstances, it would surely leave much to be desired.

As well as this well defined role, the trainer was also found helping with post-game icing, strapping and the general preparation of the players.

There were also a number of assistants who helped with the strapping and with the massaging of the players.

Usually the strapping was performed with the guidance of the club doctor or in one case the physiotherapist; however, in some clubs there seemed to be very little supervision, and certainly no emphasis was placed on applying specialised techniques to specific injuries.

Sprint Coach

Every club but one had a sprint coach. In most cases he was an ex-'high class' athlete.

Conditioner

All clubs had what they termed a conditioner. Two were school physical education teachers, three were gymnasium instructors and two were past players. In the remaining cases the coach was the conditioner.

The conditioner's role was described as being responsible for bringing the players to the required level of physical fitness.

It was interesting to note that one club had seen fit to have one person solely responsible for flexibility and stretching exercises. This certainly is a progressive innovation and one that other clubs would do well to follow. The assessing and stretching of muscles prior to physical activity is not emphasised enough. Often stretching of muscles is routinely done, but inefficiently, and often with no follow-up strengthening of the newly gained range of movement. This is the case because generally it is not supervised by someone with a proper understanding of the anatomy and theory involved.

Chiropractors

One club used the help of two chiropractors, who attended both games and training. These chiropractors worked under the doctor's supervision. Two clubs used chiropractors in private practice, but specified that this was only occasionally. In contrast, three clubs specified to their players that it was club policy that chiropractors were not to be consulted.

Physiotherapists

All but one club used physiotherapists in some capacity. Only one club at the time of the survey had the services of a physiotherapist who attended all games and training, and treated players during the week. One other club previously had a similar set-up, but this arrangement broke down during the course of the season because of a conflict of roles between the physiotherapist and the club doctor.

Five clubs used the services of an appointed physiotherapist in private practice. Two clubs used the physiotherapy departments of local hospitals. In all cases, players were referred to the physiotherapist by the club doctor.

In the majority of cases the players were not referred to a physiotherapist until at least two or three days after the game. There seemed to be a misconception that only basic first-aid treatment is necessary for soft tissue injuries during the first one or two days post-trauma.

Only one club (the club with a physiotherapist present at games and training) seemed to fully appreciate the role of a physiotherapist as someone who can help prevent injuries by prior assessment and correction of musculo-skeletal abnormalities. In every other club, the physiotherapist was only used for the rehabilitation of injuries.

2. Pre-Game Format

Training in all clubs was held at least three times per week. Match days usually fell on a Sunday, and when this was the case, training nights fell on Tuesday and Thursday, plus either Saturday morning or Friday night. On Tuesday nights more emphasis was usually placed on conditioning and discussing the previous game. On Thursday nights more time was spent on ball skills and tactical plays. This format was only varied if there was a mid-week cup game or a Saturday game.

In every club but one it was stated that a formal warm-up period was used. This period usually lasted for around twenty minutes; however, in one club only five to ten minutes was spent on this activity. The club which did not use a formally supervised period left it to the individual players to carry out their own programme. In the clubs with a supervised warm-up, it was stated that the team conditioner was always in charge, except in one instance when the coach took on this added responsibility.

Every club stated a preference to warm-up outside, but this depended on the facilities available at the ground. Very few, if any, grounds have an area set aside exclusively for the players to exercise prior to the game. If facilities were not available, and this seemed to be the most common situation, then warm-up was held in the dressing room.

A similar pre-game format seemed to be used by everyone. It usually consisted of stretching, combined with wrestling and body contact games. Some teams also used running on the spot. It was specifically stated by four clubs that they did not use any form of running prior to the game.

3. Post-Game Format

Without exception, it was reported that when a player is taken off the field, treatment commences immediately. The prime regime for treating soft tissue injuries seemed to be ice, compression and elevation. In fact only two clubs mentioned any other methods.

The reporting of injuries following the game was left to the players themselves in one club. Most clubs, however, had a time set aside for the doctor to ask each player individually to report any injury. This examination was carried out immediately after the players returned to the dressing room, and before any disturbances were allowed to interfere.

The night following the game, no club had treatment supervised by a qualified professional. In every instance, treatment on the night of the injury was left to the players themselves, with only basic guidelines to follow.

Half of the clubs provided the players with a sheet outlining a basic treatment format. One club provided a comprehensive booklet, outlining treatment and explanations of physical conditioning programmes.

Allowance was usually made for players to report an injury which became apparent later that evening or the following morning. Together with players who had been diagnosed immediately after the match, these players were required to report to the club doctor on the Monday morning. Three clubs emphasized this attendance so strongly that players were either automatically dropped or fined if they arrived for a Tuesday training with an unreported injury. Some of the other clubs stated that a 'dim view' was taken if injuries were not reported, but they had no formal disciplinary system.

It was disappointing to find that one club's coach had the following policy regarding injury management, namely that 'all players are mature adults, and do not need to be told whether they require treatment or not'.

As already mentioned above, all but one club referred injured players for physiotherapy treatment during the following week. Attendance at these treatment sessions was checked by five of the clubs, four of which then took disciplinary action against those who failed to keep regular appointments. The remaining four clubs had no formal policy on checking for attendance. They all quoted the word 'trust' as describing the only method necessary. In contrast to this, we noted that all clubs had a very strict disciplinary format to ensure regular training attendance.

The only equipment available for treating injuries, common to all clubs, was ice. Some of the clubs have an ice machine, the others just bring buckets to the dressing room.

Four of the clubs owned an ultrasound machine; all of these were used by unqualified personnel. Three clubs owned a muscle strengthening system. Some of the other clubs stated that owning such a system was high on their priority list.

4. Injury Prevention Methods

The clubs were asked if an injury prevention and basic treatment talk had been given to the players. A general briefing was given to the play-

ers at the beginning of the season by eight clubs. In six of these clubs the doctor gave the talk, whereas in the other two clubs the physiotherapist also participated. The details of the contents of such talks varied greatly, and were too difficult to assess and hence report on.

Only three clubs adopted a scientific approach to their pre-season assessment. Their tests involved VO_2 max., whole muscle groups strength assessment, muscle strength ratios between groups, EEGs and ECGs *etc.* One club claimed to assess their players' 'strengths and weaknesses', but on further questioning it was found that this was done with a generalised subjectively orientated approach. Five clubs admitted that there was no objective assessment done.

The clubs were asked it they had any system for recording individual player's injuries during the season, or for recording the rate of occurence of the different types of injuries. The doctor's own patient notes were not considered as such a system because they are only available to himself and are lost to the club should he leave. Only three clubs had their own record keeping system. One club used a record card on which it recorded injury details for each game. A separate injury card for each player was preferred by the other two clubs. Both these methods enabled the clubs to analyse and to assess whether or not more attention was necessary in preventing certain injuries, which their records indicated to be more prevalent.

An example of this occurred in one club which found that the occurrence of hamstring injuries had diminished dramatically during the same season that they had:

- concentrated on stretching and flexibility to a far greater degree then they had before, and
- used a progressive strengthening apparatus in conjunction with this.

Another club's records indicated that following prophylactic ankle strapping before games, there had been a corresponding decrease in soft tissue injuries at the ankle, but an increase in knee injuries. It must be pointed out that at this stage no statistical analysis has been carried out on these findings, but they do indicate the usefulness of such a record system, and how it could be used to predict trends in sports injuries.

Discussion

This investigation into the injury prevention and treatment schemes used by Sydney first grade rugby league clubs revealed a number of areas that need improvement. It was also noted that a number of clubs had introduced ideas that will benefit their athletes.

Most clubs do not place enough emphasis on trying to prevent injuries. It is pleasing to see that in nearly every club, time is being spent before the game on warming up, and that muscle stretching is being done at both training and before the game.

As was mentioned earlier, however, it is essential that these activities are not only performed, but also that they are performed effectively.

Very few clubs, if any, have space to warm-up in the open, where the players can stretch out and complete warm-up exercises and movements which more closely simulate match conditions. Would it not be possible for the teams to spend a much longer period, say six to eight minutes, warming up on the playing field itself before the game, in addition to a period in the dressing room? This practice would achieve two important results. Firstly it would enable the players to run quickly, to swerve, to accelerate, to kick and generally to warm-up in ways not possible in the dressing rooms. Secondly it would enable the crowd to watch the warm-up process. This would serve to educate the junior players and coaches watching, as to what is necessary in a proper warm-up period, and also to underline the importance of such a period.

Warming up on the field is already common practice in other sports, notably English soccer. Is it only tradition that keeps the players in the dressing rooms here?

Muscle stretching is another injury-preventing activity already accepted and used by the clubs. Effective muscle stretching, however, needs to be directed by people who fully understand the theory and the anatomy involved. Frequently athletes are seen stretching, but ineffectively because of poor technique and understanding. Often certain players need programmes designed to correct their own specific problems. These players need to be assessed and assisted as individuals. Usually stretching is performed in a group situation, with players doing their own stretching exercises. However, when a certain individual needs special attention, he needs to be stretched passively with more specific techniques, and by someone qualified to treat his abnormality. The people best qualified to assess and then treat musculo-skeletal abnormalities with physical techniques are physiotherapists.

Another activity necessary for the prevention of injuries is a proper pre-season and in-season screening programme. It is encouraging to find that a couple of clubs have already moved in this direction. The majority, however, have yet to introduce quantitative and qualitative testing of muscular strength, endurance, power and flexibility, or testing of cardio-pulmonary function. Very few clubs keep data files or individual player profiles recording previous injuries and listing musculo-skeletal test results, taken both pre-seasonally and during the season, when the player is healthy and in peak form. In fact, only three clubs properly recorded the injuries which occurred during the course of the season.

If athletes are to be rehabilitated in the shortest possible time, such records

are essential. If future injuries are to be prevented, records which document injury trends within a club are necessary, in order to identify deficiencies in the training programme.

All clubs seem to have an adequate network of back-up medical service organized. Provision for immediate post-game X-rays has been organized by most local hospitals. If the club doctor feels that an injury is serious enough to be seen by a specialist doctor, this is usually organized by the following Monday or Tuesday at the latest.

It is in the area of immediate treatment of soft tissue injuries, the first two to three days after the game, that the system seems to break down. Simple ice, compression and elevation are relied upon in this period, the actual application and technique in nearly every case being left to the player himself, with the exception of some help from the trainer at the ground.

Every club but one recognised the need to have a qualified physiotherapist available to manage the rehabilitation of their players' injuries after this initial two or three days. Only one of those clubs, however, involved their physiotherapist in the management of injuries from the outset.

Every physiotherapist would agree that their task in rehabilitation would be significantly helped, and that injuries would respond more quickly, if they were involved from the outset. Furthermore, it must be realized that there is more to do than just ice, compression and elevation in this period.

It is not fully apparent why the clubs do not have someone present on the day of the game who is qualified to treat injuries, or why players are left to manage themselves for forty-eight hours. Is it a lack of funds, or is it this belief that ice, compression and elevation, managed by the player is the sum total of what can be done?

Physiotherapists are not involved by the clubs in injury prevention. As already stated eight of the nine clubs used physiotherapists in the rehabilitation phase of injury management, but only one of the eight used their skills in musculo-skeletal assessment and injury prevention.

Sporting bodies like most organisations seem to wait until after the accident to take action. They must be educated to the fact that much can be done to predict and prevent injuries, and that physiotherapy can play an important part in this 'other side' of sports medicine.

A number of clubs have purchased equipment for the use of their players in injury treatment and for muscle strengthening. This equipment could be of great benefit to their players, or on the other hand could prove detrimental if not used properly. Ultrasound machines are being used by unqualified people. This situation is deplorable. Correct dosages are essential if the machine is to be used effectively. Incorrect dosage and application could make injuries much worse, but more importantly could be very dangerous.

Muscle strengthening machines will benefit the players, as long as correct agonist-antagonist strength ratios are maintained, and as long as flexibility is not reduced. If not, the use of these machines may well make the player more susceptible to injury.

Very little uniformity between clubs was apparent in the area of physical fitness and physical conditioning. One training night per week was usually concerned more with this aspect of team preparation, but the backgrounds of the conditioners seemed to vary greatly, from school physical education teachers, to gymnasium instructors, and even past players and the coaches themselves. Does this indicate that some clubs place a low priority on this area, or is it that the clubs as a whole do not know who would be best able to supervise the conditioning of their athletes?

The staff used by the clubs for the initial injury treatment and strapping were (with the exception of club doctors) mostly untrained helpers. These people contribute greatly to the functioning of the club, and give up their valuable time to be involved. Their experience is very important to the players' preparation. It must be realised, however, that their lack of theoretical background and scientific training means that their contribution to the advancement of the science of sports medicine can only be minimal. To increase knowledge of the treatment and prevention of injuries typical to a particular sport, it is essential that people with a theoretical background be involved in that sport, so as to be able to present new theories and hypotheses, and then to be able to prove or disprove their effectiveness.

It is essential for doctors to be involved in a sport to increase their contribution to the body of knowledge concerned with the diagnosis, prevention and treatment of injuries common to that sport: so, too, is it essential for other professionals such as exercise physiologists, physiotherapists and dietitians to be involved and to utilize their unique expertise to contribute to the same end.